

Assignment 5

Due Friday Oct 9.

Problem 1.

Write a code to apply the bisection method to the function $f(x) = e^{x^2} \ln x^2 - x = 0$ and find the roots of the function. Discuss the procedure for dealing with more than one root in a given region.

Problem 2.

Write a code to apply the Newton-Raphson method to the functions $\vec{f}(\vec{x}) = \vec{0}$ where \vec{f} is $f_1(x_1, x_2) = e^{x_1} \ln x_2 - x_1^2$, $f_2(x_1, x_2) = e^{x_2} \ln x_1 - x_2^2$.